

# DIPTERA OF THE WILLIAMS GALAPAGOS EXPEDITION.

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(Figures 13-14).

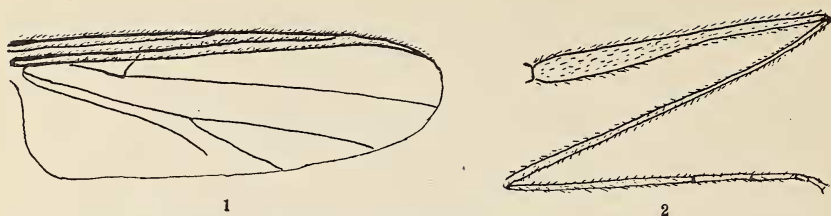
This report is concerned with a collection of Diptera made by William Beebe on the Williams Galapagos Expedition. This was sent out under the auspices of the Department of Tropical Research of the New York Zoological Society.

The first Diptera described from the Galapagos Islands were collected by Charles Darwin, while on the memorial cruise of H. M. S. *Beagle* around the world. The specimens were collected from September 15th, to October 20th, 1835, and nine species were described by Francis Walker in his "List of Diptera" in 1849. During the cruise of the Swedish frigate *Eugenies*, the Galapagos were again visited, and the Diptera collected,—numbering twelve species,—were described by C. G. Thomson in 1868. The British S. S. *Petrel* visited the islands in 1875, and among the insects were two Diptera recorded by F. Smith in the "Proceedings of Zoological Society of London for 1877, page 84." During the cruise of the U. S. S. *Albatross* in 1887 and 1888, these islands were again visited, but only one undetermined species of *Culex* was reported.

In 1898-1899 there was an expedition known as the Hopkins Stanford Galapagos Expedition. Among the insects collected by Mr. R. E. Snodgrass, the entomologist, were thirty-five species of Diptera, that were recorded by D. W. Coquillett.<sup>1</sup> Of these, twenty-four had not previously been reported from the islands and of these ten were described as new. The present paper deals with twenty-eight species, of which thirteen have not been before recorded. Deducting synonyms it makes a total of fifty species of Diptera recorded from the Galapagos. Including three undetermined species, the number apparently peculiar to the islands is thirty-eight.

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<sup>1</sup> *Proceedings Washington Academy of Sciences*, Vol. III, pp. 371-379, 1901.



FIGS. 13-14. *GALAPAGOMYIA LONGIPES* gen. et sp. nov.  
Fig. 13. Wing. Fig. 14. Front leg.

Family CHIRONOMIDAE (The Midges).

*Chironomus* sp.

One imperfect specimen in alcohol, South Seymour, April 22nd.

*Ceratopogon galapagensis* Coquillett.

*C. galapagensis* Coquillett, *Proc. Wash. Acad. Sciences*, Vol. III, p. 372, 1901.

Four specimens in alcohol, South Seymour, April 20th.

*Tanytus* sp.

One imperfect specimen in alcohol, South Seymour, April 22nd.

***Galapagomyia longipes* gen. et sp. nov.**

*Male*: Head yellowish, the prominent facial protuberance bearing long black hairs, the proboscis nearly as long as the face, palpi large, yellow with black hairs, antennae yellow, scape about three times the diameter of the first joint of the flagellum, the joints of the latter six in number, are rounded and each bear three verticilli, the terminal joint, which is about double the length of the preceding joint, tapers to a point. Thorax brown, with three dorsal rows of hairs, pleura yellow, with a large, brown, central spot, scutellum brown. Abdomen with both the dorsal and ventral segments brown, margined posteriorly with yellow, hypopygium comparatively small, in form similar to a *Diamesa*. Legs long, femora yellow, thickened at the basal half, tibiae brown, the front tibiae about one-fourth longer than the femora, the others but slightly longer, tarsi brown, the metatarsi about one-half the length of the tibiae, the other joints of the tarsi together not quite as long as the metatarsi, fourth joint less than one-half the length of the third, legs covered with fine black hairs, halteres yellow, wings brownish hyaline, the costa, first and second veins hairy. Length, 4 mm.

*Female*: similar to the male but only 3 mm. in length. Ovipositor short. The eggs show distinctly through the thin distended sides of the abdomen.

Two specimens in alcohol, Seymour Bay, Indefatigable, April 26th. The italicized portions of the above description represent the generic characters.

Family TIPULIDAE (The Crane-flies).

*Dicranomyia* sp.

One specimen, Conway Bay, Indefatigable, April 1st.

The discal cell is open, the venation resembling that of *D. floridana* O. S. The abdomen is missing and it would be inadvisable to describe it without the male genitalia.

## Family CULICIDAE (The Mosquitoes).

*Aedes taeniorhynchus portoricensis* (Ludlow).

*Taeniorhynchus niger* Gibs (non Theobald) *Jour. Trop. Med.*, Vol. 7, p. 382, 1904.

*Culex portoricensis* Ludlow, *Can. Ent.*, Vol. 37, p. 386, 1905.

*Aedes* (*Taeniorhynchus*) *portoricensis* Dyar. *Proc. U. S. Nat. Mus.*, Vol. 62, p. 88, 1922.

Two mounted specimens, Conway Bay, Indefatigable, April 1st, and some forty-eight specimens in alcohol, from Seymour Bay, Indefatigable, South Seymour and Tower, April 18th to 28th.

This is undoubtedly what Coquillett recorded from the Galapagos as *Culex taeniorhynchus*. Differs from *taeniorhynchus* only in having the last hind tarsal joint strongly blackish tipped. The habits are the same as those of *taeniorhynchus* of which this is to be considered a local race." (Dyar). The larva were in "salt water tide pool," at Eden, April 2nd.

## Family TABANIDAE (The Horseflies).

*Tabanus vittiger* Thomson.

*T. vittiger* Thom., *Eugenies Resa*, p. 451, 1868.

Four specimens, Conway and Seymour Bays, Indefatigable, April 1st and 22nd.

This species resembles the common *T. lineola* Fabr.

## Family BOMBYLIIDAE (The Bee-flies).

*Villa primitiva* (Walker).

*Anthrax primitiva* Walker, *List Diptera*, II, 257, 1849.

*Anthrax lateralis* Thomson, *Eugenies Resa*, p. 482, 1868. non Say 1823.

*Anthrax nudinscula*? Coquillett, *Proc. Wash. Acad. Sciences*, III, 373, 1901. non Thomson.

One specimen, Conway Bay, Indefatigable, April 1st.

The description by Walker seems to agree with this species, and as Thomson's name is pre-occupied I have adopted it. Coquillett placed *A. lateralis* Thomson doubtfully as a synonym of *A. nudinscula* Thomson, described from Panama, but the description does not substantiate this.

*Villa tincta* (Thomson).

*Anthrax tincta* Thomson, *Eugenies Resa*, p. 483, 1868.

One specimen, Seymour Bay, Indefatigable, April 22nd.

The specimen is rubbed, but from the form of the head and color of the wings I can only refer it to this species.

## Family ASILIDAE (The Robber-flies).

*Ommatius marginellus* Fabricius.

One specimen, Conway Bay, Indefatigable, April 1st.

This species was recorded from James by Coquillett. The specimen before me is a female and therefore the determination is somewhat doubtful, as there are species in which the costa of the male is not thickened, as for example, *O. saccas* Walker of Jamaica.

## Family DOLICHOPODIDAE (The Long-legged Flies).

**Asyndetus versicolor** sp. nov.

*Male:* Face with whitish pubescence, front metallic green, palpi black, antennae black, first joint about twice the length of the second, third joint rounded and partly covered by the second, arista about as long as all of the three joints together, thickened at the base. Thorax and scutellum metallic green, covered with a thin yellowish pollen. Abdomen bronze black, with a strong purplish reflection, the first segment and a wide posterior margin on the other segments greenish, which in certain lights show as whitish pollinose spots on the sides of the second, third and fourth segments. Legs greenish black, the front coxae each bearing a pair of long bristles projecting forward. Halteres yellow, wings hyaline, veins dark brown. Length, 3 mm.

One specimen, South Seymour, April 23rd.

## Family PHORIDAE (The Hump-backed Flies).

*Aphiochaeta scalaris* (Loew).

*Phora scalaris* Loew *Cent.*, VII, p. 100, 1869.

One specimen, Tower, April 23rd.

Described from Cuba, it seems to be a widely distributed tropical species.

## Family SYRPHIDAE (The Flower-flies).

*Baccha clavata* (Fabricius).

*Syrphus clavata* Fabr., *Ent. Syst.*, IV, 298, 1775.

*Baccha fascialis* Thomson, *Eugenies Resa*, p. 504, 1868.

Two specimens, South Seymour, April 23rd.

A widely distributed tropical and subtropical species.

## Family SARCOPHAGIDAE (The Flesh-flies).

*Wohlfahrtia inoa* (Walker).

*Sarcophaga inoa* Walker, *List Diptera*, IV, 832, 1849.

Three specimens, Conway and Seymour Bays, Indefatigable, April 1st, and 22nd.

This species is readily recognized by its prominent epistoma and pubescent arista, the abdomen has four rows of uniformly pollinose spots on a permanent black ground, third vein of the wings hairy at the base, almost to the cross vein. This is referable to the genus *Wohlfahrtia*, although there are some authors who would erect a new genus for it without wincing.

*Sarcophagula occidua* (Fabricius).

*Musca occidua* Fabr., *Ent. Syst.*, IV, 315, 1794.

*Sarcophagula occidua* Aldrich, *Sarcophaga and Allies*, 40, 1916.

One specimen, Daphne Major, April 22nd.

A widely distributed tropical species.

*Sarcophaga violenta* Walker.

*S. violenta* Walker, *List Diptera*, IV, 826, 1849.

One specimen, South Seymour, April 23rd.

The specimen is a male a little larger (14 mm.) than the measurement.

given by Walker, but otherwise agreeing with the description. It was recorded by Coquillett from Albemarle.

*Sarcophaga reversa* Aldrich.

*S. reversa* Aldrich, *Sarcophaga and Allies*, 127, 1916.

Two male specimens, South Seymour, April 23rd.

This has a wide distribution and the specimens agree so well with the description and figure of the hypopygium, that there is little doubt that they represent this species.

*Sarcophaga obtusifrons* Thomson.

*S. obtusifrons* Thomson, *Eugenies Resa*, 536, 1868.

One specimen in alcohol, Seymour Bay, Indefatigable, April 23rd.

#### Family MUSCIDAE.

*Cochliomyia macellaria* (Fabricius).

*Musca macellaria* Fabr., *Syst. Ent.*, p. 776, 1775.

*Musca phanda* Walker, *List Diptera*, IV, 869, 1849.

*Lucilia quadrisignata* Thomson, *Eugenies Resa*, p. 544, 1868.

*Compsomyia macellaria*, E. L. Arribalzaga, *Anales Soc. Cien. Argentina*,

X, p. 70, 1880. Williston, *Proc. U. S. Nat. Mus.*, XII, 203, 1889.

*Chrysomyia quadrisignata* Coq. *Proc. Wash. Acad. Sci.*, III, 375, 1901.

*Cochliomyia macellaria* Towns. *Jour. Wash. Acad. Sci.*, V, 646, 1915.

*Callitroga macellaria* Johns, *Bull. Amer. Mus. Nat. Hist.*, XLI, 439, 1919.

One specimen, Conway Bay, Indefatigable, April 1st.

The specimen agrees with the descriptions of both Walker and Thomson and I find no character to separate it from the common and widely distributed "Screw-worm fly" *C. macellaria* Fabr. The synonymy of this species is large, although some of the twenty-six species placed there by Arribalzaga and Williston will ultimately prove to be good species when more thoroughly studied. The *Musca ochricornis* Wied., recorded from the Galapagos by F. Smith, may also represent this and not the Brazilian species, which is placed in the genus *Lucilia*.

#### Family ORTALIDAE.

*Pareuxesta latifasciata* Coquillett.

*P. latifasciata* Coq., *Proc. Wash. Acad. Sciences*, III, 376, 1901.

*P. intermedia* Coq., *l. c.* p. 377.

Seven males and seven females mounted and thirty-nine in alcohol, Tower, April 28th and 29th. "Hundreds of these flies clustered on gull excrement on the beach."

The color of the last two abdominal segments of the female varies from yellow to black, thus eliminating one of the characters used by Coquillett to separate *P. intermedia* from *P. latifasciata*. The width of the apical band on the wing is also variable, and it is impossible to draw the line between two-thirds as wide as the preceding hyaline interval in one, to one-half to three-fifths as wide in the other. I am therefore making *P. intermedia* a synonym.

The larvae were also collected. They are whitish, cylindrical, tapering anteriorly to a point. The hook-like mouth parts can be seen through the somewhat transparent tegument, the posterior end is truncated with two prominent



anal tubercles, ventral surface with low transverse ridges armed with rows of small chitinous spines. Length, 4 mm.

*Pareuxesta obscura* Coquillett.

*P. obscura* Coq., *Proc. Wash. Acad. Sci.*, III, 377, 1901.

Seven specimens, Daphne Major, April 22nd.

All the specimens are males, but the narrow bands of the wings readily separates it from *P. latifasciata*. One specimen has the bands obsolete, suggesting that possibly *P. hyalinata* Coq., with unmarked wings, may represent an extreme variation.

#### Family CHLOROPIDAE.

*Hippelates pusio* Loew.

*H. pusio* Loew, *Cent.*, X, 87, 1872.

Eight specimens (four in alcohol). Tower, April 28th, 29th.

"These flies were attracted to small abrasions on our hands or arms." This, and several other species, are often prevalent in the southern States and West Indies and largely instrumental in spreading an infectious disease known as "sore eye" or pink eye, see Scharz, "Hippelates plague." *Insect Life*, Vol. 7, p. 137, 1895.

#### Family DROSOPHILIDAE (The Pomace-flies).

*Drosophila willistoni* Sturtenant.

*D. pallida* Williston, *Trans. Ent. Soc. London* 1896, p. 415 (non Zetterstedt 1847).

*D. willistoni* Sturt., *Ann. Ent. Soc. Amer.*, IX, 327, 1916. *N. Amer. Drosophila*, p. 89, 1921.

One specimen, a female, in alcohol, South Seymour, April 22nd.

This seems to belong to this widely distributed species of tropical America.

#### Family AGROMYZIDAE.

##### *Odinia williamsi* sp. nov.

*Male and female:* Front, vertex and occiput grayish white, the front and vertex together forming a quadrangle, with three pairs of frontal orbital bristles, the two upper pairs reclinate, the lower pair convergent, the two pairs of vertical bristles reclinate, the lower pairs of ocellar bristles proclinate and the upper pair reclinate, a fine curved line extends from above the base of each antennae, upper half of the face black, the lower part and cheeks silvery white, vibrissae black, curved, with the basal half thickened, proboscis and palpi yellow, antennae with the second joint white above and black below, third joint about one and a half times as long as the second, yellow, with a broad longitudinal black stripe, arista black, base yellow. Thorax grayish with very small black spots at the base of each hair and bristle, one pair of acrostichals and four dorso-centrals, scutellum gray margined with brown and with four marginal bristles, abdomen gray, sparsely covered with black hairs, second, third and fourth segments each with pairs of brown subdorsal and smaller lateral spots. Femora black, tips of the femora and the tibiae and tarsi yellow, the posterior tibiae with a basal and subapical band of brown, halteres yellow, wings grayish,

with some thirty irregular black spots, that are surrounded by a narrow hyaline margin, tegulae white. Length, 3 mm.

Two specimens, South Seymour, April 22nd, 23rd.

This beautiful little fly is dedicated to the promoter of the expedition.

Family HIPPOBOSCIDAE (The Tick-flies).

*Olfersia spinifera* (Leach).

*Feronia spinifera* Leach, *Mem. Wernerian Nat. Hist. Soc.*, II, 557, Tab. 24, f. 1-3, 1817.

Eleven specimens, Tower, April 26th-28th.

Living upon the Frigate-bird (*Fregata aquila*).

*Olfersia fossulata* Macquart.

*O. fossulata* Macq., *Dipt. Exot.*, II, part 3, p. 434, 1843.

One specimen, Daphne Major, April 22nd. From the Brown Pelican, (*Pelecanus fuscus californicus*).

Recorded by Coquillett from Wenman. In the absence of specimens of the true *O. spinifer* I confused this with that species in my paper on the Diptera of the Bahamas (*Psyche* XV, 80, 1908). The species there recorded from the Cormorant and Booby are really this species, which measures only about 5-6 mm., while *O. spinifer* is from 8-9 mm. in length.

*Ornithoponus americanus* (Leach).

*Feronia americana* Leach, l. c. 557, Tab. 27, f. 1-3, 1817.

*Ornithoponus americana* Aldrich, *Ins. Ins. Menst.*, XI, 77, 1923.

Seven specimens, Seymour Bay, Indefatigable, April 22nd.

From a hawk, *Buteo galapagensis*. The specimens agree with this common and widely distributed species, which has been recorded from three species of *Buteo* and several of the owls.

*Ornithoponus intertropicus* (Walker).

*Ornithomyia intertropica* Walker, *List Diptera*, IV, 1144, 1849.

*Olfersia intertropica* Austen, *Annal. Mag. Nat. Hist.*, ser. 7, XII, 264, 1903.

Three specimens, Seymour Bay, Indefatigable, April 22nd.

From a heron, *Butorides sundevalli*. This species is closely allied to *O. albipennis* Say, which frequents the various herons of North America.

The types described in this paper are in the Laboratory of the Department of Tropical Research, New York Zoological Society.

ADDENDA.

In preparing the above paper I did not discover until after I had returned the galley proof that Dr. C. H. T. Townsend had described four new species,—the genotypes of four new genera, from the Galapagos. The descriptions are based on species previously recorded by Coquillett under other names in his report on the Diptera collected by the Hopkins Stanford Galapagos Expedition, but this fact is not stated by Dr. Townsend.

In the *Insecutor Inscitiae Menstruus*, vol. 5, p. 163, 1917, under the title "New Genera of Amobiinae" he describes *Opsophytopsis insularis*, Albemarle,

Jan. 18, 1899. Under "Genera of the Dipterous tribe Sarcophagini" (Proc. Biol. Soc. Washington, vol. 30, p. 196, 1917), he described *Prosthetocirca cana*, Narborough, Jan. 13-29, 1899, Albemarle, Jan. 1-18, 1899, *Gigantotheca galapagensis*, Albemarle, Jan. 18, 1899, and *Sarothromyiops cinctus*, Culpepper, Dec. 10, 1898. The types are in the U. S. National Museum. The only comment by Dr. Townsend relative to previously described species is,—“I can identify none of the above Galapagos forms with *Sarcophaga inoa* Walker.”

It seems likewise difficult from the description to identify Dr. Townsend species. Therefore, a study of his types is just as essential as a study of those of Walker. In referring this complex to Dr. J. M. Aldrich he says:—“It is too bad you have not been enjoying these new genera for the past six years. There are a few good genera among them and I think *Prosthetocirca* is one, as the front rows do not diverge below, which is a pretty good character. Coquillett's specimen with his label *Sarcophaga inoa* was included by Townsend in the material of his *Prosthetocirca cana* but he did not mention that helpful item. I do not believe that Coquillett was correct because Walker's statement about the 'four hoary spots,' on each segment does not seem to agree. Townsend's *Sarothromyiops cinctus* is a synonym of *P. cana* as he could easily have ascertained if he had spread the genitalia. He separates the genera on anterior acrostichals which are in this case not of specific importance. We have several other specimens and one or two show a single acrostichal developed.”

This is one of the series of scientific papers of the Harrison Williams Galapagos Expedition, under the directorship of William Beebe, sent out by the Department of Tropical Research of the New York Zoological Society. The general account and narrative of the expedition, together with the natural history and photographs of the fauna, are embodied in a volume by William Beebe, published by G. P. Putnam's Sons, under the auspices of the Zoological Society. Its title is “Galapagos; World's End.”